To: Kwan, Caroline[kwan.caroline@epa.gov]; Mahoney, Keith[kmahoney@dep.nyc.gov]
Cc: Licata, Angela[AngelaL@dep.nyc.gov]; Mayo, Joseph[MayoJJ@cdmsmith.com]; Roberts, Keegan[robertsk@cdmsmith.com]; Mathew, Rooni[RMathew@moffattnichol.com]; Heineman, Mitchell[HeinemanMC@cdmsmith.com]; Schmidt, Mark[schmidt.mark@epa.gov]; Vaughn, Stephanie[Vaughn.Stephanie@epa.gov]
From: Weissbard, Ron
Sent: Thur 3/2/2017 9:36:50 PM
Subject: RE: InfoWork Rainfall information

Caroline,

We have our modeling team looking into this and expect to have a detailed response in a couple of weeks. Will keep you updated if there are any developments.

Thanks

Ron Weissbard, P.E./Acting Director of Superfund

NYC Environmental Protection/Sustainability

(O)718-595-5186/ (C) 201-704-1401/ rweissbard@dep.nyc.gov

From: Kwan, Caroline [mailto:kwan.caroline@epa.gov]
Sent: Wednesday, March 01, 2017 4:04 PM
To: Mahoney, Keith <kmahoney@dep.nyc.gov>
Cc: Weissbard, Ron <RWeissbard@dep.nyc.gov>; Licata, Angela <AngelaL@dep.nyc.gov>; Mayo, Joseph <MayoJJ@cdmsmith.com>; Roberts, Keegan <robertsk@cdmsmith.com>; Mathew, Rooni <RMathew@moffattnichol.com>; Heineman, Mitchell <HeinemanMC@cdmsmith.com>; Schmidt, Mark <schmidt.mark@epa.gov>; Vaughn, Stephanie <Vaughn.Stephanie@epa.gov>
Subject: InfoWork Rainfall information

Hi Keith,

Regarding our review of the Anchor QEA InfoWorks model, one item that we wanted to discuss

before the typical year discussion was cut off at the 2/16/17 LTCP meeting was representation of short-duration precipitation variability. We expect that you've calibrated your collection system model to 5- or 15-minute data. Our experience is that a model should be applied with the same temporal resolution at which it was calibrated; using a longer timestep will otherwise underestimate peak runoff and thus CSO. Raw 1-minute precipitation data is available for JFK for 2008 from the ASOS system, e.g. ftp.ncdc.noaa.gov/pub/data/asos-onemin/6406-2008/64060KJFK200809.dat . Do your simulations use these data or otherwise decompose the hourly data into shorter time intervals? Alternatively, the hourly data can be synthetically disaggregated and adjusted to ensure appropriate short-duration peaks.

For example, the table below shows hourly and 1-minute data for September 2008 at JFK. The 1-minute data is missing part of the storm on 9/12 (0.31" instead of 0.63"), but matches the hourly otherwise. One can identify 15-minute peaks within the data. The hourly maxima are generally larger than those from the hourly data (e.g. 1.13" in the peak 60 minutes during Tropical Storm Hanna on Sep 6 vs. 0.76" from the hourly dataset). The difference is much smaller for 2-hour maxima, but short duration spikes often determine CSO discharge rates.

Hourly data

Depth	Date	Event
2.89	9/6/08 0:00	1
2.21	9/25/08 20:00	4
0.77	9/9/08 11:00	2
0.63	9/12/08 15:00	3
0.17	9/28/08 12:00	6
0.07	09/27/2008 11:00	5

1-minute data

Depth	Date	Event
2.89	9/5/08 23:19	1
2.21	9/25/08 19:45	4
0.77	9/9/08 10:36	2
0.31	9/12/08 16:19	3
0.17	9/28/08 11:10	6
0.07	09/27/2008 10:59	5

LARGEST 1.00-HOUR DURATION TOTALS

LARGEST 0.25-HOUR DURATION TOTALS

Total	Date	Event
0.51	9/9/08 10:45	2
0.47	9/6/08 16:04	1
0.21	9/26/08 4:45	4
0.09	9/28/08 11:10	6
0.08	9/12/08 16:19	3
0.03	9/27/08 10:59	5

LARGEST 1.00-HOUR DURATION TOTALS

Total	Date	Event	Total	Date	Event
0.76	9/6/08 16:00	1	1.13	9/6/08 15:24	1
0.55	9/9/08 11:00	2	0.72	9/9/08 10:36	2
0.47	9/26/08 3:00	4	0.49	9/26/08 4:32	4
0.19	9/12/08 17:00	3	0.16	9/12/08 16:19	3
0.10	9/28/08 12:00	6	0.10	9/28/08 11:10	6
0.04	9/27/08 12:00	5	0.05	9/27/08 10:59	5

LARGEST 2.00-HOUR DURATION TOTALS

Total	Date	Event
1.30	9/6/08 16:00	1
0.74	9/26/08 2:00	4
0.74	9/9/08 11:00	2
0.33	9/12/08 16:00	3
0.10	9/28/08 12:00	6
0.05	9/27/08 11:00	5

LARGEST 2.00-HOUR DURATION TOTALS

Total	Date	Event
1.35	9/6/08 14:30	1
0.75	9/9/08 10:36	2
0.75	9/26/08 0:59	4
0.25	9/12/08 16:22	3
0.10	9/28/08 11:10	6
0.05	9/27/08 10:59	5

Thank you. Your prompt response is requested so we can continue to review the models provided in the draft RI report.

Caroline

Caroline Kwan

Project Manager

Special Projects Branch

U.S. Environmental Protection Agency

290 Broadway, 20th Floor

New York, NY 10007-1866

(212) 637-4275

kwan.caroline@epa.gov